

## Patent Abstracts of Japan

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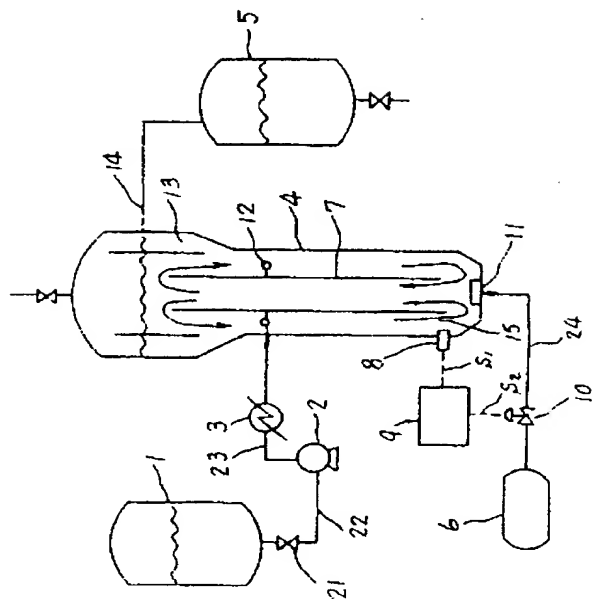
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TITLE : BIOREACTOR



**ABSTRACT :** **PURPOSE:** To prevent the breakage of immobilized gelatinous material in a bioreactor by mechanical shock, by controlling the air flow according to the state of the immobilized particles and the flowing state of the reaction liquid in a suspension reaction column.

**CONSTITUTION:** The kinetic pressure generated by the flow of the suspension in an immobilized enzyme suspension reactor 4 is detected by the pressure sensor 8. The flow of air supplied to the reactor 4 is adjusted by the regulator 9 according to the signal S1 of the sensor 8, and the control valve 10 is operated by the signal S2 to control the air flow through the pipe 24. The air flow necessary for the fluidization of the suspension can be controlled to a level to keep the immobilized material from breakage even if the immobilized material is filled in the reactor 4 in high concentration.

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